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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,904	09/25/2003	Darryl Jessie	030390	9172
23696 7590 08/13/2007 QUALCOMM INCORPORATED 5775 MOREHOUSE DR. SAN DIEGO, CA 92121			EXAMINER NGUYEN, TUYEN T	
			ART UNIT 2832	PAPER NUMBER
			NOTIFICATION DATE 08/13/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/672,904

Applicant(s)

JESSIE, DARRYL

Examiner

TUYEN T. NGUYEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 6-28 is/are pending in the application.
- 4a) Of the above claim(s) 21,22 and 25-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,6-20,23 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

Tuyen T. Nguyen
TUYEN T. NGUYEN
Primary Examiner
Technology Center 2800

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of group I in the reply filed on 8/28/2006 is acknowledged. Applicant admitted, in paper filed 4/27/2006, that *"each of the identified embodiments are directed to non-patentable distinct species, which species are believed to be obvious variants."*

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1-2, 6, 7-15, and 16-20, are rejected under 35 U.S.C. 103(a) as being unpatentable over Groves et al. [US 2002/0158711 A1].

Groves et al. discloses an integrated circuit comprising:

- a primary spiral conductor for an inductor [32];
- a secondary spiral conductor [34] forming a loop in proximity to the primary conductor;
- a switch [36] coupled in series with the secondary conductor and operable to open or close the loop, wherein inductance of the inductor is varied by closing and opening the loop with the switch; and
- a variable capacitor [30] connected in series with the primary conductor, wherein the variable capacitor [30] and the inductor [32] forming the resonator tank.

Groves et al. inherently discloses a current source coupled to the secondary conductor.

Groves et al. discloses the instant claimed invention except for the specific operation of the current source(s).

The specific operation of the current source would have been an obvious design consideration to control the output of the inductor as noted by applicant as being a mere obvious variants.

Regarding claim 6, Grooves et al. discloses the secondary conductor located outside the primary conductor [figure 3C].

Regarding claim 8, Grooves et al. discloses the secondary conductor located on a layer on top of the primary conductor [figure 3B].

Regarding claim 9, Grooves et al. discloses the secondary conductor located on a layer underneath of the primary conductor [figure 3A].

Regarding claims 7 and 10, the specific arrangement of the conductors and additional conductors/switches would have been an obvious design consideration based on the intended inductance, as noted by applicant as being mere obvious variants.

Regarding claims 11-12, the specific arrangement of the capacitor and additional circuit would have been an obvious design consideration based on the intended applications/environments use, as noted by applicant as being obvious variants.

Regarding claims 13-14, the specific material use for the conductor would have been an obvious design consideration for the purpose of improving conductivity.

Regarding claim 15, Groves et al. discloses a FET switch. It would have been an obvious design consideration to use MOS transistor for the switch since as noted by applicant as being mere obvious variants.

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Regarding claims 18-20, the specific application use of the integrated circuit would have been an obvious design consideration, as noted by applicant as being mere obvious variants.

Claims 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Groves et al. in view of Brown et al. [US 6,388,636 B1 for motivation purpose].

Groves et al. discloses an integrated inductor for use in the integrated circuit.

Groves et al. discloses the instant claimed invention except for the conductors being formed with traces on a printed circuit board.

Conductive traces/patterns are known method/structure use to form conductive coils/winding in semiconductor art and integrated circuit.

Brown et al. discloses spiral coil/conductor traces formed on a printed circuit board [figures 1-2]

It would have been obvious to one having ordinary skilled in the art at the time the invention was made to use conductive traces/patterns formed on printed circuit board for the primary and secondary coils/windings of Groves et al. for the purpose of facilitating manufacturing and reducing size.

Response to Arguments

Applicant's arguments filed 3/9/2007 have been fully considered but they are not persuasive.

Applicant argues that

[1] Groves et al. fails to disclose a current source coupled in series with the secondary conductor and the switch;

[2] Groves et al. fails to disclose a current source is operable to control a current in the secondary conductor to flow in a first direction in the secondary to reduce the inductance of the inductor and in a second direction in the secondary to increase the inductance;

[3] Groves et al. fails to disclose the conductors being formed with traces on a circuit board; and

[4] Groves et al. fails to disclose a capacitor coupled in series with the secondary conductor and the switch.

The examiner disagrees.

Regarding [1], Groves inherently discloses a current source signal applied at [40] and coupled in series with the secondary coil and the switch.

Regarding [2], applicant admitted, in paper filed 4/27/2006, that *“each of the identified embodiments are directed to non-patentable distinct species, which species are believed to be obvious variants.”* Therefore the specific operation of the current source would have been an obvious design consideration to control the output of the inductor as noted by applicant as being a mere obvious variants.

Regarding [3], the argument have been considered but are moot in view of the new ground(s) of rejection.

Regarding [4], applicant admitted, in paper filed 4/27/2006, that *“each of the identified embodiments are directed to non-patentable distinct species, which species are believed to be obvious variants.”* Therefore the specific arrangement of the capacitor and additional circuit would have been an obvious design consideration based on the intended applications/environments use, as noted by applicant as being obvious variants.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TUYEN T. NGUYEN whose telephone number is 571-272-1996. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ELVIN ENAD can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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